WHY DOUBLE FARMERS' INCOME?

- Past strategy for development of the agriculture sector in India has focused primarily on raising agricultural output and improving food security. The net result has been a 45 per cent increase in per person food production, which has made India not only food self-sufficient at aggregate level, but also a net food exporting country.

- The strategy did not explicitly recognise the need to raise farmers' income and did not mention any direct measure to promote farmers welfare. The net result has been that farmers income remained low, which is evident from the incidence of poverty among farm households.

- Low level of absolute income as well as large and deteriorating disparity between income of a farmer and non-agricultural worker constitute an important reason for the emergence of agrarian distress in the country during 1990s, which turned quite serious in some years. The country also witnessed a sharp increase in the number of farmers suicides during 1995 to 2004 - losses from farming, shocks in farm income and low farm income are identified as the important factors for this. The low and highly fluctuating farm income is causing detrimental effect on the interest in farming and farm investments, and is also forcing more and more cultivators, particularly younger age group, to leave farming. This can cause serious adverse effect on the future of agriculture in the country.

- It is apparent that income earned by a farmer from agriculture is crucial to address agrarian distress and promote farmers welfare. In this background, the goal set to double farmers' income by 2022-23 is central to promote farmers welfare, reduce agrarian distress and bring parity between income of farmers and those working in non-agricultural professions.

THE CONCEPT AND TIMEFRAME

Clarity on the following points is important to assess the possibility of doubling the income of the farmers. The substantive points are:

1. what is the period and targeted year for doubling the farm income;
2. what is to be doubled, is it output, value added or income earned by farmers from agricultural activities;
3. whether nominal income is to be doubled or real income is to be doubled; and
4. whether the targeted income includes only income derived from agricultural activities or would it also include income of farmers from other sources.
It is obvious that the targeted year to double the current income of the farmers or income for the agricultural year 2015-16 is by agricultural year 2022-23, which is seven years away from the base year 2015-16. And, if anything is to be doubled by the year 2022-23, it will require an **annual growth rate of 10.4 per cent**.

Again, it is important to clarify what is sought to be doubled. Is it the income of farmers, or the output or the income of the sector or the value added or GDP of agriculture sector? If technology, input prices, wages and labour use could result in per unit cost savings then farmers' income would rise at a much higher rate than the output. In nominal terms, the **output became 2.65 times while farmers' income tripled in the seven years period**. Therefore, doubling of farmers' income should not be viewed as same as doubling of farm output.

It is obvious that if inflation in agricultural prices is high, farmers income in nominal terms will double in a much shorter period. In a situation where non-agricultural prices do not rise, or, rise at a very small rate, the growth in farmers' income at real prices tends to be almost the same as in nominal prices. The government's intention seems to be to **double the income of farmers from farming in real terms**.

It is pertinent to mention that the latest data on number of cultivators is available only up to the year 2011-12. Therefore, while calculating per cultivator income, it is assumed that farm workers would continue their withdrawal from agriculture at the rate observed during 2004-05 to 2011-12. Presently, **per cultivator income has been estimated as Rs 1,20,193 at current market prices**.

**Sources of Growth in Farmers' Income**

**Doubling real income** of farmers till 2022-23 over the base year of 2015-16, requires **annual growth of 10.41 per cent in farmers income**. This implies that the on-going and previously achieved rate of growth in farm income has to be sharply accelerated. Therefore, strong measures will be needed to harness all possible sources of growth in farmers' income within as well as outside agriculture sector.

**The Major Sources of Growth Operating within Agriculture Sector Are:**
- improvement in productivity
- resource use efficiency or saving in cost of production
- increase in cropping intensity
- diversification towards high value crops
THE SOURCES OUTSIDE AGRICULTURE INCLUDE:
• shifting cultivators from farm to non-farm occupations, and
• improvement in terms of trade for farmers or real prices received by farmers.

RECOMMENDATION OF M.S SWAMINATHAN'S REPORT

1. Irrigation:
   • enable farmers to have sustained and equitable access to water
   • Increase water supply through rainwater harvesting and recharge of the aquifer. (“Million Wells Recharge” programme)

2. Agricultural Productivity
   • Substantial increase in public investment in agriculture related infrastructure particularly in irrigation, drainage, land development, water conservation, research development and road connectivity.
   • A national network of advanced soil testing laboratories with facilities for detection of micronutrient deficiencies.

3. Credit and Insurance
   • Expand the outreach of the formal credit system to reach the really poor and needy.
   • Issue Kisan Credit Cards to women farmers, with joint pattas as collateral
   • Expand crop insurance cover to cover the entire country and all crops, with reduced premiums
   • Competitiveness of Farmers.
   • Improvement in Implementation of Minimum Support Price (MSP). Arrangements for MSP need to be put in place for crops other than paddy and wheat. Also, millets and other nutritious cereals should be permanently included in the PDS.
   • MSP should be at least 50% more than the weighted average cost of production.

STRATEGY FOR IMPROVING FARMERS' INCOME
The sources of growth in output and income can be put in four categories.
• Development initiatives including infrastructure
• Technology
• Policies and
• Institutional mechanisms

INCREASING INCOMES BY IMPROVING PRODUCTIVITY
• Biotechnology is set to play critical role in crop and livestock production by enhancing yields, nutritional profile, stress tolerance and crop protection. India must have a clear vision of the GM crops. The policy support accordingly be provided for the development of seed and biotech industry in the country. As per
studies BT cotton alone has contributed more than Rs. 80,000 crores of additional output value to farmers. Similar potential many other crops may have for Indian agriculture and towards enhancing farmers profitability. Besides preparing Vision Document on Biotechnology, passing the BRAI bill in the Parliament, which can facilitate greater investments and faster rollout of biotech products, while ensuring compliance of bio-safety measures.

- **Improving agricultural productivity in rain fed regions** of India, which constitutes more than 50% of the country’s arable land. Besides watershed management, constructing check dams and farm ponds should be taken up in a mission mode for providing life saving irrigation for the crops. Chandrababu Naidu Committee report (2003) need to be revalidated and implemented for bringing 69 million hectare area under Micro-Irrigation to save water and input costs, increase productivity and improve quality of output. The area expansion and subsidy to the States must be linked with the adoption of precision agriculture model.

- **Bridging yield gaps** among the States is important in improving national productivity i.e. the gap in rice yields almost 3 times between Punjab and Chhattisgarh. There is urgent need for developing a strategy document for assessing the present trends of crop productivity vis-a-vis the potential yield of major crop systems, so that specific action plans can be taken up for bridging the yield gaps, which in turn will contribute to enhanced productivity of farming systems. Increased Budget on Farmers Inter-State Exposure Visits and Training Scheme of MoA. This is a powerful scheme towards helping farmer bridge the yield gap.
WATER AND INPUTS

• **Fertilizer Subsidy and Rationalizing the NPK pricing** for maintaining NPK ratio in the soil and better application technologies to improve efficiency and reduce fertilizer subsidy by Rs. 25,000 – 30,000 crores annually. Policy on promoting crop specific speciality fertilisers and fertigation, besides setting standards and **regulating bio-fertilisers under Soil Health Mission** is needed. Since the year 2010, NP / NPK fertilisers have been reformed and put under Nutrient Based Subsidy (NBS) whereas Urea continues under direct control. Consequently, the gap in MRP of Urea and NP / NPK fertilisers has been widening. Therefore, unless corrections are made in the fertiliser policies, the benefit of soil health card will not be realised. And desired increase in yields in major crops will continue to delude the nation.

• **Crop losses in India** are huge and estimates range from Rs. 90,000 to Rs. 1.50 lac crores annually. **Pesticides** play an important role not only in protecting crops from pests and diseases but also in crop productivity, cost reduction and quality improvement. The **cost benefit ratio in using pesticides** is heavily in favour of farmers. The Government however needs to check flood of spurious pesticides in market by fly-by-night operators by regulating registrations, strengthening quality enforcement and tackling corruption through provisions of joint testing of samples.

• **Farm Mechanisation** in India has been a story of tractorisation. Time has come to promoting efficient equipments and tools and small engine driven tractors to address small farm requirements adequately. Through a mix of **specialised Custom Hiring Centres (CHCs) and with State Agros, Cooperatives and input dealers**. Developing and Custom hiring facility in farm mechanization should be given high focus. Through **MANAGE network of ACABCs, Custom Hiring Centres** can be promoted effectively by enhanced incentivisation and by provisioning to hire agribusiness consulting companies by **MANAGE / States for promoting CHCs among ACABCs**.

• There is a need for **integrated water use policy**. India should critically examine several ongoing initiatives and develop its country-wide system for judicious and integrated use and management of water. A **national commission on efficient water use in agriculture** should be established to assess the various issues, regulatory concerns, water laws and legislations, research, technology development and community involvement. This will especially help resource-poor farmers in the rainfed ecosystems, who practice less-intensive agriculture.

• Farmers however need to be **educated on water usage systems** to drift them away from flood irrigation systems, which affects productivity and wastes water. The most important part is the crops planning, which needs to be done keeping water resources of a region and the water intake by various crops in mind. For
example high water consuming crops like paddy and sugarcane should be grown in high rainfall areas.

ROADMAP AND ACTION PLAN
The quantitative framework for doubling farmers income has identified seven sources of growth. These are:

- **The first step is to increase productivity.** It means focusing on irrigation, and that is why we have increased the irrigation budget. India has 142 million hectares agriculture land, out of which only **48% is under institutional irrigation.** With the objective of providing water to every field, **Pradhan Mantri Krishi Sinchai Yojana** was launched on July 1, 2015, and, to provide an end-to-end solution in irrigation supply chains, water resources, network distribution as well as farm level application. We have adopted a comprehensive approach, one that combines irrigation with water preservation. The objective is **More Crop Per Drop.** In addition, the aim is to complete pending medium and large irrigation projects on a priority basis in the next four years. Water harvesting, management, and watershed development projects have been put on the fast-track.

- **The second factor is effective use of inputs,** which means increasing production through improved seeds, **planting materials, organic farming, soil health card** and other schemes. For the first time, a scheme has been launched for organic farming. Similarly, the government has curbed **illegal use of urea** and ensured its adequate supply through **Neem-Coated Urea scheme.** In addition, the Soil Health Card Scheme has helped reduce cultivation cost and increase production by curbing misuse of fertilisers. Farmers are also getting timely information and advisory services through new technologies such as space technology and online and telecom facilities via the **Kisan Call Centre and Kisan Suvidha App.**

- **The next critical factor is reducing post-harvest losses.** One of the biggest problems of farmers is storage after harvesting; as a result, they are forced to sell their products at a lower cost. Therefore, the government is encouraging farmers to **use warehouses and avoid distress sales.** Loans against negotiable warehouse receipts are being provided with interest subvention benefits. The focus is on storage facilities and integrated cold chains in rural areas.

- **Value addition** is being encouraged as a critical factor for augmenting income. The government has launched the **Pradhan Mantri Kisan Sampada Yojana.** Under this, food-processing capabilities will be developed by working on forward and backward linkages of agro-processing, benefitting 20 lakh farmers and creating employment opportunities for about 5 lakh.
• In agriculture marketing, The electronic-National Agriculture Market has been launched with three reforms and so far, 455 mandis have been linked to it. Online trading has begun on various mandis. In addition, a model APMC Act has been circulated, which includes private market yards and direct marketing. Farmers are also being organised as Farmer Producer Organization. This helps them achieve economy of scale and increase bargaining power.

• The Pradhan Mantri Fasal Bima Yojana (PMFBY) helps reduce the possible risks. The scheme is a shield for farmers’ income. The lowest rate has been fixed for kharif and rabi crops. Maximum rate is 2% and 1.5%, respectively. The scheme covers standing crops as well as pre-sowing to post-harvesting losses, and 25% of the claim is settled immediately online. Under PMFBY, many states are using remote sensing technology and drones to estimate losses and settle claims. To reduce climate change impact, various tolerant species and animal species have been developed. Contingency plans for affected districts have also been prepared.

• Focus on agri-allied activities is critical. We are focusing on horticulture, dairy, poultry, beekeeping, fisheries, white revolution, blue revolution, agroforestry, integrated farming and rural backyard poultry development to increase the income of the farmers. We will increase the income of farmers through allied activities. Partially, it will be done through poultry, beekeeping, animal husbandry, dairy development, and fishery. We are encouraging farmers to utilise uncultivated areas for peripheral and boundary plantation to grow trees for wood and to produce solar cells. We are also emphasising on horticulture, agro-forestry, and integrated agriculture.

SPECIAL MEASURES

• Structural reforms in agriculture pertaining to land leasing and market restrictions need to be addressed. The market regulation on movement and procurements by private players is hampering market growth and prices realization by farmers. Similarly due to land leasing policies of State Governments the concept of contract farming is not successful. The experiments of contract farming are based on "win all", bringing value to all partners in operations. This needs to be encouraged on a large scale.

• Through a nationwide crops competitiveness study, States’ profiling of crops and animal resources should be done, indexing them against national and global benchmarks on cost, quality and productivity parameters, and their short, medium and long term strategic advantages. Based on this national indexing and estimation of market demands in short, medium and log terms national crop planning needs to be done. If India has to succeed in global market on a long term basis, this task is unavoidable.
• Agriculture to be brought to the **Concurrent List**: Bringing the entire gamut of post production activities in agriculture, such as PHM, marketing, processing, infrastructure, agribusiness etc. under the concurrent list of the Constitution for better central planning, as the business of food and agriculture is globalizing and role of central Government is increasing in making laws and policies, especially in post harvest, trade and agribusinesses, where MNCs and corporate sector is involved in big way.

• Review of current scenario of **farm credit and subsidy disbursement system**. All financial benefits, mainly the subsidies in different forms, should be provided and transferred directly to farmers account through e-governance through which tracking of farmers’ application, status and approval of all schemes is available online. Gradually **phase out all subsidies including fertiliser and only transfer money to farmers**, calculating aggregate measure of support. This improves efficiency of govt investments.

• Implementing ambitious **Agribusiness Hubs Model**, operating on a national platform and establishing 2.40 lac multi-functional Agribusiness hubs in all the Gram Panchayats of the country. This will revolutionize the farm economy and create jobs. The project outlines creating 10.0 million jobs, 50,000 crores of additional annual farm value, providing increased market opportunities of Rs. 50,000 crores and initiating various multifarious socio-economic activities, aimed at improving farm incomes.

• **ICT-based agricultural extension** brings incredible opportunities and has the potential of enabling the empowerment of farming communities. Information technology can support better crop, fertilizer and pesticide use planning as well as **disease monitoring and prevention, both in crops and animal husbandry**, besides improving farmers’ operational and financial management and to effectively connect them with the markets for better price realisation.

• **Diversification** of agriculture in the **First Green Revolution** areas such as Punjab, Haryana and Western U.P. seems need of the hour. To promote diversification on ecological principles, will require making monetary equivalence (profit margin) between the replaced crop/commodity and enterprise with the ones planned to be introduced. Farmer is mainly concerned with the profit he gets from a particular crop or commodity. Crops like maize, soybean, pulses, oilseeds, fruits and vegetables have the potential to replace rice and wheat in this area. **Upward push in MSP** in favour of proposed diversification crops will be a practical option to achieve this objective.

• **Integrating all central and state subsidies**, instead of reducing costs of inputs, need to be targeted to empower farmers through infrastructure development in rural areas to promote agribusiness, food processing, water management, soil health enhancement, seed production and processing, custom hiring, plant
protection, dairy, poultry, fisheries and enterprises etc. This will boost up agriculture sustainability and farms profitability.

- **Strengthening Organic Food Program** for India to make 10% of the global 60 billion USD market for each. Major parts of India such as NER, HP, J&K, Uttarakhand, MP, Chhatisgarh, Jharkhand, which are organic by default, must be made Organic by Process for the producers to get advantage of market value.

- **Establishing Special Agriculture Zones (SAZ)** by selecting export oriented and industrial use crops. Promoting Crop Stewardship Programs, GAP and Certification, formation of Global Commodity Boards, on the pattern of California Walnuts, Washington Apples etc., can help double in 5 years the current level of 1.70 lac crores of agri exports, which will benefit farmers significantly.

- **Promoting scientific agriculture micro-irrigation** on a very large scale. Micro irrigation along with the nutrient application can be highly efficient and priority should be given to empower farmers with micro irrigation. Advanced concept of Precision Agriculture need to be promoted on a large scale, emulating the success of TN Precision Farming Project. A National Project on Precision Agriculture on the pattern of TNPFP should be launched with integrated approach from advance production technologies to formation of FPOs and linking them with the markets. Studies done by LSE, Harvard, IIM-A and other premier global institutions show an increase of **80% to 600% extra yields in different crops** under Tamil Nadu Precision farming Project.
• Provide **affordable health insurance** and **revitalize primary healthcare centres**. The National Rural Health Mission should be **extended to suicide hotspot locations** on priority basis.

• Set up **State level Farmers’ Commission** with representation of farmers for ensuring dynamic government response to farmers’ problems.

• **Restructure microfinance policies** to serve as Livelihood Finance, i.e. credit coupled with support services in the areas of technology, management and markets.

• Cover all crops by crop insurance with the village and not block as the unit for assessment.

• Provide for a **Social Security net** with provision for old age support and health insurance.

• Promote **aquifer recharge** and rain water conservation. **Decentralise water use planning** and every village should aim at Jal Swaraj with Gram Sabhas serving as Pani Panchayats.

• Ensure **availability of quality seed** and other inputs at affordable costs and at the right time and place.

• Recommend low risk and low cost technologies which can help to provide maximum income.

• Need for focused **Market Intervention Schemes (MIS)** in the case of life-saving crops such as cumin in arid areas. Have a Price Stabilisation Fund in place to protect the farmers from price fluctuations.

• Need **swift action on import duties** to protect farmers from international price.

• Set up **Village Knowledge Centres (VKCs)** or Gyan Chaupals in the farmers’ distress hotspots. These can provide dynamic and demand driven information on all aspects of agricultural and non-farm livelihoods and also serve as guidance centres.

**CONCLUSION**

• The low level of farmers income and year to year fluctuations in it are a major source of agrarian distress. This distress is spreading and getting severe over time impacting almost **half of the population** of the country that is dependent on farming for livelihood. Persistent low level of farmers income can also cause serious adverse effect on the future of agriculture in the country. To secure future of agriculture and to improve livelihood of half of India’s population, adequate attention needs to be given to improve the welfare of farmers and raise agricultural income. Achieving this goal will reduce persistent disparity between farm and non-farm income, alleviate agrarian distress, promote inclusive growth and infuse dynamism in the agriculture sector. Respectable income in farm
sector will also **attract youth towards farming profession** and ease the pressure on non-farm jobs, which are not growing as per the expectations.